Norman H. Bangerter
Governor
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Executive Director
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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
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March 8, 1989

Mr. Deane H. Zeller
District Manager
U.S. Bureau of Land Management
Salt Lake District Office
2370 South 2300 West
Salt Lake City, Utah 84119

Dear Deane:

Thank you for the opportunity to participate in the meeting concerning the investigation of the Bonneville Salt Flats. Attached are comments and recommendations concerning the USGS study.

If you have questions concerning these recommendations, please contact Wayne Hedberg of this office.

Best regards,

Marjorie L. Anderson
for

Dianne R. Nielson
Director

ksg
Enclosures
cc: W. Hedberg
P. Spurgin
AD457/4

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February 15, 1989

TO: Dianne R. Nielson, Director

FROM: D. Wayne Hedberg, Senior Reclamation Specialist/Hydrologist

RE: Suggested Objectives for USGS Bonneville Salt Flat Research Proposal, Reilly Industries (Reilly Tar & Chemical Corp.), Reilly Wendover Plant, M/045/002, Tooele County, Utah

Pursuant to your request for a draft list of my ideas on basic study objectives to be included as part of the USGS Bonneville Salt Flat Research Proposal, I present the following:

BASIC PROPOSAL OBJECTIVES

1. An objective of the proposal should be to limit the "scope" of the study area to the extent possible. It should focus on the area of immediate concern for the most part. If extra funding and time is available, then expanding the scope of the project to take a closer look at the regional picture of salt thickness change could be considered.

2. Historic local and regional climatic influences should be examined for the overall impact on the salt flats. These influences must be compared against the localized impacts which may be directly attributed to Reilly Industries mining-related activities (and its predecessor, Kaiser Aluminum and Chemicals Corp.).

   A basic objective of the study should be to separate the "natural" short-term and long-term climatic influences on the salt flats, from the "man-caused" impacts.

3. A comprehensive literature search on the geohydrology of the area should be undertaken. If required, this information could be supplemented with additional technical data acquired from a more detailed study of the area.

   Depending on how well the geohydrology of the area is defined, an objective of the study may be to better define the geohydrology of the area in question. This is a crucial factor to understand before one can begin to ascertain who or what may be causing the local decrease in salt thickness.

4. The USGS study should consider development and discussion of possible mitigating solutions to help minimize, preserve, or reverse the salt thickness problem.

5. Has the BLM determined an acceptable "threshold level", or optimum salt thickness, that must be maintained to preserve (guarantee) the long-term use of the racetrack? If not, then perhaps the USGS proposal should include this as a basic objective of the study.

   A "no-salt-loss" stand by the BLM, is probably not a workable or reasonable position; especially when one considers the uncontrollable influence of the normal climatic cycles on the salt bed thickness alone.

6. Another objective would be to utilize the USGS model to determine the short-term and long-term impacts of the adjacent mining operation(s) on the salt bed thickness. A variable set of operating parameters could be used to estimate impacts under a variety of different mining scenarios. Different climatic changes in precipitation, temperature, and solar evaporation rates could also be modelled.

GENERAL CONSIDERATIONS IN DEVELOPMENT OF THE PROPOSAL

1. Perhaps a few general questions should be addressed before the proposal is implemented by USGS:

   Once the "results are in," what will be done with the results of the study? If it is demonstrated that mining activity has caused, or is continuing to cause a reduction in salt thickness, what will be required of the operator? Will he be required to modify, restrict, or cease operations entirely? Will he be required to mitigate impacts, and if so, what mitigation measures would be acceptable to the regulatory agencies?

2. A reasonable timeframe should be established for completion and submittal of the results of the USGS proposal.

3. The objectives of the proposal must be specific and well defined. Projected costs and sources of funding for the proposal are also important considerations. The "dollars" will likely determine how detailed the study will be, and how accurate and/or useful the results may be.

DWH/jb
cc: Lowell Braxton
MN2/52-53